

IRRIGATION ARRANGEMENTS IN ALAMANCE COUNTY, NORTH CAROLINA

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INSTITUTE OF GOVERNMENT
UNIVERSITY OF NORTH CAROLINA

**U.N.C. WATER
RESOURCE PAPERS
Number 3**

IRRIGATION ARRANGEMENTS IN
ALAMANCE COUNTY, NORTH CAROLINA

A Report of an Irrigation Survey in Alamance
County, Conducted in the Summer of 1962

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for \$1.00.

Introduction

This is one of a group of reports of irrigation surveys made in the summer of 1962 covering eleven North Carolina counties. The surveys are part of a research project concerning arrangements by water users in selected areas of North Carolina to secure water sources. Conducting the surveys was James E. Martin, Jr., currently a second-year law student at the University of North Carolina, under the supervision of Milton S. Heath, Jr.*

Briefly, the purpose of the irrigation surveys is to examine and analyze the following factors:

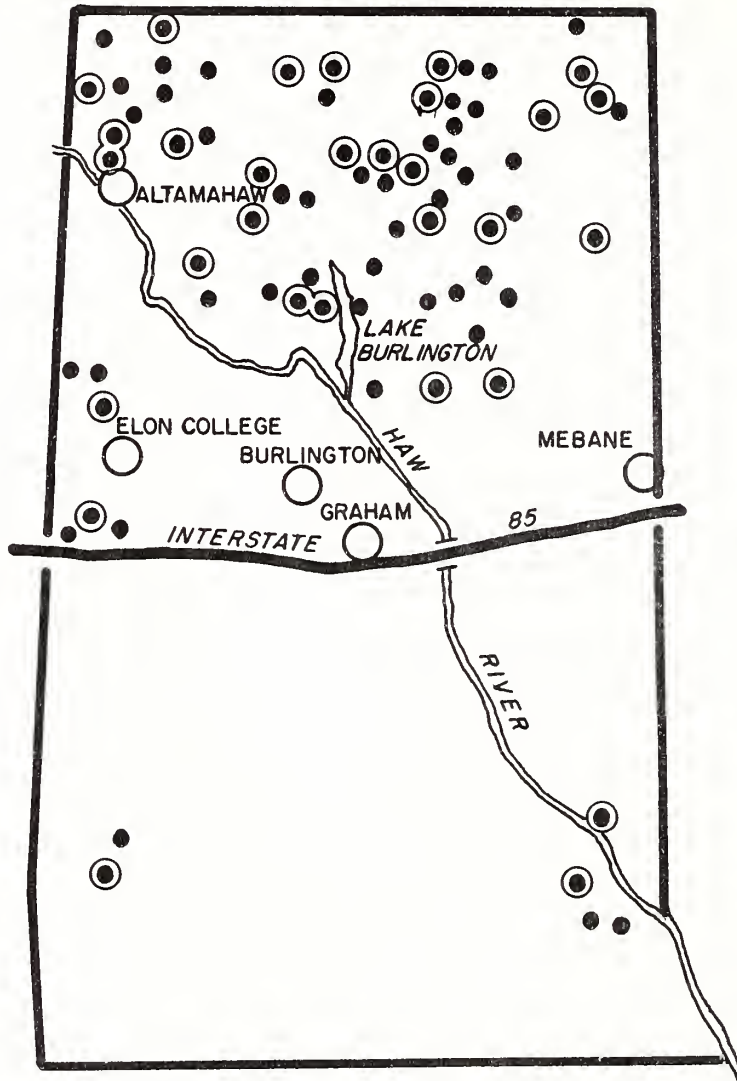
- .The nature and magnitude of farm irrigation in selected areas.
- .The types of crops irrigated.
- .The sources of water used.
- .The legal arrangements made by the irrigators to secure their sources of water, including purchase of land or water rights, agreements among irrigators and other water users concerning water use, permits required, etc.
- .Any disputes that may have arisen over sources of water affecting these irrigators, and the outcome of the disputes.

With this and other information developed through the research project, it is hoped that an accurate evaluation can be made of the operation of the existing structure of laws and political institutions affecting water use, of its weaknesses and strengths, and of its impact on water resource development.

The procedures followed in this survey are described in detail by Water Resource Paper No. 2. Briefly, the known irrigators were identified with the assistance of county agents and Soil Conservation Service personnel, and then were personally interviewed. A prepared questionnaire was used as a point of departure for the interviews.

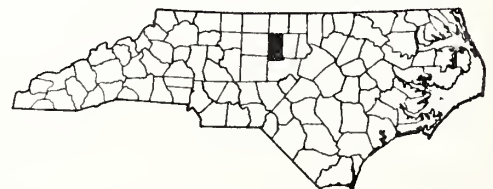
*Water Resource Paper No. 1 contains a description of the over-all research project. Water Resource Paper No. 2 summarizes the 1962 irrigation surveys and reviews the procedures followed on the surveys.

IRRIGATION IN ALAMANCE COUNTY



Key:

- REPRESENTS AN ACTIVE IRRIGATOR WHO WAS CONTACTED IN THIS SURVEY DURING THE SUMMER OF 1962.
- REPRESENTS OTHER FARMERS BELIEVED BY SOIL CONSERVATION AND EXTENSION OFFICIALS TO BE IRRIGATORS BUT NOT CONTACTED ON THIS SURVEY.



General Review of Irrigation
in Alamance County

Alamance County's irrigation distribution is defined geographically by Interstate Highway 85. Scattered across the northern half of the county above the highway are seventy of the seventy-six estimated irrigators in the county. Mud-patched tobacco barns set about on almost every farm quickly indicate that tobacco is the area's number one crop. When crossing the highway into the southern half of the county, the increased long slopes and wooded ridges demonstrate why grain crops and livestock production rather than tobacco are predominant.

Thirty irrigators were chosen at random and twenty-seven of these were contacted. Twenty-five of the ones chosen were active irrigators and all raised tobacco with allotments averaging 10 acres. Several of these also used their systems for truck crops and corn.

Two irrigators owned land adjoining one of the Burlington city reservoirs and though they annually filed for irrigation permits, they had never needed to use water from the reservoirs since their own ponds furnished an adequate water supply. They indicated their understanding that the permits were renewable annually and revokable at will by the Burlington City Council. Another irrigator mentioned that several years ago he had used water from a creek which had been swelled by backwater from one of the reservoirs. He now has several ponds located near his fields and did not expect to need water from the creek again.

In the northern half of the county irrigation is widespread and, judging from the recent acquisition of systems by many of those interviewed, may be considered to be increasing. Though only five of the twenty-five active irrigators indicated an immediate inclination toward expansion of their systems, this seems largely due to the fact that the systems that they now own are sufficient for their present tobacco allotment. In other words, if tobacco allotments are ever increased, irrigation expansion will probably follow.

The county, like others in the Piedmont, is well suited for pond construction and the soil condition is such that in most areas of the

northern half a twelve acre watershed will supply sufficient water for a one acre pond. This natural resource has apparently been well exploited by the Alamance irrigators since only one reported having recently used a stream. Some irrigators had as many as seven and up to ten ponds, each located near a tobacco field. Twenty-one had ponds with either a spring or a branch supplementing surface drainage, while twelve relied on surface drainage to supply water. Six used both types of ponds.

Summarized Results of Survey

1. Extent of coverage

Farms reporting irrigation in 1959 U. S. Census of Agriculture--203

Total random irrigators selected--30

Total contacted--27

Total active irrigators contacted--25

Total estimated number of irrigators in Alamance County (SCS Unit Conservationist and County Extension Chairman--76

2. Time required for conduct of survey in Alamance County

2 days for interviewing irrigators and others

3. Water sources

Ponds--25

Continuous Flow Ponds--21

Surface Ponds--12

Combination Usage--8

Streams--1

Combination of Sources (ponds, streams)--1

Note: The information concerning water sources, including the classification of types of ponds, was derived from the irrigators themselves, not from personal inspection by the authors. An explanation of the terminology used here--e.g., "continuous flow ponds"--will be found in U.N.C. Water Resource Paper No. 2.

4. Types of crops

Tobacco (25 farms)

Largest farm--30 acres

Smallest farm--4 acres

Average farm--10.04 acres

Truck (3 farms: 8, 3, 1 acres respectively; secondary to tobacco)

Grain (3 farms: 5, 1, 6 acres respectively; secondary to tobacco)

Note that the figures above reflect the acreage irrigated and are not necessarily the actual acreage of the respective farm.

5. Water usage

There are no reliable data available and no mechanical measuring devices are in use.*

6. Expansion

No expansion planned--20

Expansion planned--5

7. Disputes over water, etc.

None reported

8. Purchase of water rights or agreements concerning irrigation

There were no private agreements reported; however, annual permits are available from the City of Burlington for irrigation from its reservoirs. Two irrigators interviewed had permits in 1962, but they did not need to use the reservoir water.

9. Acquisition of riparian lands, easements, etc.

None reported.

10. Recent irrigation trends

Twenty-four out of the twenty-five reported having used their systems at least once during the 1962 season. This is not unusual even though the 1962 season was a wet one in the Piedmont. Even if the systems were not used during the dry periods early in the season, it has become common practice to irrigate tobacco plants immediately after transplanting, and the Alamance County irrigators were no exception.

Acknowledgments

SCS Unit Conservationist Henry J. Thiel and Alamance County Extension Chairman G. R. Coble gave us invaluable help in identifying and locating irrigators. We are very grateful to them, and to State Conservationist Richard M. Dailey and Howard Ellis of the State College Department of Engineering Extension for their usual generous co-operation.

The map at page 3 was prepared by Charles Nakamura of the Institute of Government.

*See Water Resource Paper No. 2. for further comment.

